

IX.—*On three new Himalayan Primulas.*

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(With Plates VIII., IX., and X.)

Since the publication of the *Primulaceæ* by Sir J. D. Hooker in his Flora of British India, several collections of plants from the higher parts of the Eastern Himalaya have reached the Calcutta Herbarium. Amongst these I find three species of *Primula* which I believe to be undescribed, and which I now describe and name.

1. PRIMULA TANNERI, King. Glabrous, not mealy; basal sheaths short, broad, membranous. Leaves long-petiolate deltoid, with cordate base and acute apex, the edges irregularly and coarsely serrate, glaucous beneath when young and sometimes slightly puberulous, especially on the nerves, blade about 2 inches long and 1·5 in. broad; petioles 1·5 in. long, often narrowly winged. Scape slender, from 5 to 8 inches long, two- to eight-flowered, bracteoles minute subulate from broad bases, pedicels slender and unequal, some of them as long as the flowers. Calyx infundibuliform, cleft half-way down, the teeth lanceolate, rather longer than the tube of the corolla. Corolla bluish white; the tube cylindric or sub-infundibuliform, the throat with a dentate annulus, the limb ·75 in. across, deeply lobed, the lobes obcordate. Ovary globose pyramidal; the stigma sub-capitate. Fruit unknown.

HAB.—Sikkim Himalaya at elevations of about 11,000 feet, Col. H. C. Tanner: Chumbi Valley, Dr. King's collectors.

This approaches *P. geraniæfolia*, Hook, fl., *P. Kaufmanniana*, Regel, and *P. cortusoides*, Linn., in flowers and inflorescence; but the leaves are very different.

There is in the Calcutta Herbarium a specimen in young fruit, but without corollas, of a *Primula* which has leaves very like those of this species. It was collected by Mr. R. Pantling in the Lachen valley in Sikkim at an elevation of about 12,000 feet, and it evidently belongs to a nearly allied, but distinct species, which I have provisionally named *P. deltoidea*. Mr. Pantling notes that the corolla of his plant is purple with a yellow eye.

Some fragmentary specimens in the Calcutta Herbarium, named *P. Balfouriana*, Watt MSS., also come near this.

Plate VIII, fig. 1 *Primula Tanneri*, King, 2 corolla natural size, 3 calyx, ovary, style, and stigma, 4 corolla, 5 stamens, slightly enlarged.

2. *PRIMULA PANTLINGII*, King. Glabrous, not mealy; the sheaths very short. Leaves sessile ob-lanceolate, the edges remotely and obscurely sub-dentate, slightly revolute (at least when dry), about 1·5 in. long and ·3 in. broad. Scape 5 or 6 inches long, one- to two-flowered; bracteoles few minute subulate; pedicels rather stout, about ·2 in. long. Calyx narrowly campanulate, about half as long as the tube of the corolla, cleft about half way down; the teeth lanceolate-acuminate. Corolla yellow, glabrous, the tube sub-infundibuliform, the throat without an annulus, the limb about 1 inch across, deeply lobed; the lobes obcordate, the apical notches wide and deep. Ovary globose; stigma capitate. Fruit unknown.

HAB.—At Chopta, altitude about 12,000 feet, in the Lachen valley, Sikkim, growing in damp places and even actually in water: Mr. Pantling's collector.

This approaches *P. Dickieana*, Watt, but has narrower leaves and rather fewer smaller flowers than that species. The corollas of this are pale yellow with a darker yellow eye. They are extremely beautiful.

Plate IX, fig. 1 *Primula Pantlingii*, King, *natural size*; 2 and 3 corolla; 4 and 5 calyx; 6 anthers, *slightly enlarged*.

3. *PRIMULA JAFFREYANA*, King. Glabrous, slightly mealy when very young; the sheaths at the base of the leaves membranous short. Leaves obovate-elliptic, narrowed into a short winged petiole, the apex blunt, the edges irregularly and closely dentate; blade about 1·5 in. long, and from ·5 to ·75 in. broad; petioles from ·5 to ·75 in. long. Scape 3 inches long, many-flowered; bracteoles numerous, subulate; pedicels slender varying from ·5 to ·75 in. long. Calyx cylindrico-campanulate, about half as long as the tube of the corolla, 5-ridged externally, cut about half way down; the teeth linear-lanceolate. Corolla pale purple, the tube cylindrical, inappendiculate, the limb spreading, about ·5 in. across, rather deeply lobed; the lobes broadly obcordate. Ovary globose; stigma faintly 2-lobed. Fruit not seen.

HAB.—Chumbi valley, E. Himalaya, at elevations of about 12,000 feet; Dr. King's collector.

This approaches *P. Tibetica*, Watt; but has much larger, more membranous, leaves. I have named it after Mr. A. T. Jaffrey, Curator of the Botanic Garden, Darjeeling.

Plate X, fig. 1 *Primula Jaffreyana*, King, 2 calyx, 3 entire flower, *natural size*, 4 corolla and anthers, 5 ovary, style, and stigma, 6 anthers, *slightly enlarged*.

